DOCUMENT RESUME

ED 451 005 RC 022 861

AUTHOR	Duncan, Beth; Culver, Virgil
TITLE	The Potential Impact of E-Commerce on the Rural South: Will It Equalize or Deepen the Digital Divide? The Rural South: Preparing for the Challenges of the 21st Century, No. 14.
INSTITUTION	Southern Rural Development Center, Mississippi State, MS.
SPONS AGENCY	Economic Research Service (USDA), Washington, DC.; Farm Foundation, Chicago, IL.
PUB DATE	2000-11-00
NOTE	8p.; Also sponsored by the TVA Rural Studies Program at the University of Kentucky, and 29 Southern land grant institutions.
AVAILABLE FROM	Full text at Web site: http://ext.msstate.edu/srdc/publications/millennium.htm.
PUB TYPE	Reports - Evaluative (142)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Economic Development; *Educational Needs; Futures (of Society); Information Technology; *Internet; *Rural Areas; Rural Development; Technical Assistance
IDENTIFIERS	Access to Technology; *Electronic Commerce; Technology Utilization; Telecommunications Infrastructure; *United States (South)

ABSTRACT

Buying and selling on the Internet, known as e-commerce, has become big business, and is still growing. E-commerce has two components, business to consumer retailing and business to business supply-chain operations. Participation is dependent on access to and adoption of advanced information technologies. Access to technology is influenced by education, income, race, and residence (rural or urban). The South is disadvantaged in all these areas. Businesses in the South cannot afford to let the barriers hold e-commerce back. Rural businesses need to position themselves now for a technology-driven future to increase their chances of survival. Even though there is interest in e-commerce, there is a critical lack of unbiased educational information and technical assistance for businesses. To facilitate economic development through e-commerce in the rural South, all people and businesses must have the opportunity to be connected to the Internet; educational institutions must develop programs that assist businesses and communities with connectivity, infrastructure, e-commerce, and other technology-related issues; states must educate, recruit, and retain people with technical expertise in the region; and state and local policymakers must take a comprehensive and strategic look at e-commerce from an economic development perspective. (Contains 11 references.) (TD)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 451 005

The Potential Impact of E-Commerce on the Rural South: Will it Equalize or Deepen the Digital Divide?

The Rural South: Preparing for the Challenges of the 21st Century, No. 14

Beth Duncan and Virgil Culver
Mississippi State University

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

L. Beaulieu

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

BEST COPY AVAILABLE

AC022861

THE RURAL SOUTH:
Preparing for the Challenges of the 21ST CENTURY

Sponsored by the Southern Rural Development Center, the Farm Foundation, the TVA Rural Studies Program at the University of Kentucky, the USDA Economic Research Service, and the 29 Southern land-grant institutions.

The potential impact of e-commerce on the rural South: Will it equalize or deepen the digital divide?

Beth Duncan and Virgil Culver
Mississippi State University

The world has moved into a new era of economic and social experience anchored in digitally based technological growth that is producing new ways of working, new means of communicating, new goods and services, and new forms of community [8]. In the United States, the new economy is flourishing, and this prosperous new economy coincides directly with the birth and growing use of the Internet. This paper focuses on electronic commerce or e-commerce (loosely defined as buying and selling via the Internet or Internet-based commerce) and explores the potential impacts this new way of doing business may have on the rural South. Will this new technology-driven economy be the great equalizer, or will it push the South even further behind the rest of the country?

> *For the society, the impact will be good or bad, depending mainly on the question: 'Will to be 'online' be a privilege or a right? If only a favored segment of the population gets a chance to enjoy the advantages ... the network may exaggerate the discontinuity in the spectrum of intellectual opportunity [8].*
>
> Written in 1968 by Robert Taylor, director of the Defense Department agency that created the original Internet.

Connectivity

The Internet is changing the way the world conducts business. Its influence has become so widespread that a new economy driven by the availability of, access to, and use of informational technology (loosely defined as the hardware, software, and infrastructure that make computers and the Internet run) has emerged. Keeping pace with rapid advances means continuous improvement in electronic infrastructure and capital investment in accessibility tools. In 1999, the University of Texas Center for Research in Electronic Commerce reported that the Internet

© 2000 The Southern Rural Development Center. This material may be copied for nonprofit educational use provided that credit is given to the original source and that a brief note explaining the use is sent to the Southern Rural Development Center, Box 9656, Mississippi State, MS 39762, or bonniet@srdc.msstate.edu.

Celebrating 25 Years SRDC
SOUTHERN RURAL DEVELOPMENT CENTER

No. 14 November 2000

RC 022861

BEST COPY AVAILABLE

economy generated more than $524 billion in revenue and created nearly 2.5 million jobs. Of the $524 billion, e-commerce accounted for $171 billion and more than 726,700 of the jobs. E-commerce is the fastest growing segment of the Internet economy with a 72 percent growth rate. If the current growth continues as predicted, e-commerce will grow to $850 billion in 2000 [10].

Participation in this new economy, however, is largely dependent on access to and adoption of advanced information technologies. According to a 1999 report by the Department of Commerce, access to such technology is influenced by several factors [5]:

- ***Americans with more education are more likely to be connected.*** People with a college degree are *eight times* more likely to have a computer at home and nearly *16 times* more likely to have home Internet access than people with an elementary school education.
- ***Americans with more money are more likely to be connected.*** An urban household with an income of $75,000 or more is *20 times* more likely to have access to the Internet and *nine times* more likely to have a computer at home than a rural household earning less than $10,000.
- ***Whites are more likely to be connected than African-Americans.*** Whites are *twice* as likely to have a computer at home and *2-1/2 times* as likely to have household Internet access as African-Americans.
- ***Urban Americans are more likely to be connected than rural Americans.*** Urban dwellers are only *7-1/2 percent* more likely to have a computer in the home than rural dwellers; however, in the South, urban dwellers are *35 percent* more likely to have Internet access than rural dwellers.

"Unless efforts are undertaken to close this divide, the South will continue to lag behind, and perhaps fall even further behind the rest of the country."

The implication for the South is apparent where the overall population is less educated, earns lower incomes, has more minorities, and is more rural than the U.S. as a whole. In other words, the South is less likely to be "connected."

Among all Americans, 22.2 percent currently use the Internet at home, and 17 percent use it at some site outside the home. Almost one-third (32.7 percent) of Americans use the Internet somewhere, while approximately two-thirds (67.3 percent) do not use it at all. The South trails in all three categories of home (20 percent), outside the home (15.6 percent), and total usage (29.8 percent) [5].

The digital divide does indeed exist. However, the rate at which the divide escalates is dependent upon the willingness of federal, state, and local policymakers to address the issues of connectivity and technology infrastructure in the South. Unless efforts are undertaken to close this divide, the South will continue to lag behind, and perhaps fall even further behind the rest of country, both socially and economically.

E-Commerce

E-commerce can be subdivided into two main sectors: B2C, or Business to Consumer (businesses using Internet as a retail market channel) and B2B, or Business to Business (businesses with supply-chain operations on the Internet). According to Forrester, B2B online revenues will swell to $1.3 trillion over the next three years, while business to consumer (B2C) e-commerce revenues will reach about $108 billion [2]. The impact of e-commerce on the economy extends far beyond the dollar value of e-commerce activity by the new business processes it enables and the new business models it is generating. Businesses use e-commerce to develop competitive advantages by providing more useful

BEST COPY AVAILABLE

information, expanding choices, developing new services, streamlining purchasing processes, increasing productivity, improving customer service, and lowering costs [7].

Business to Consumer E-Commerce

No doubt the Internet has changed the way consumer goods are bought and sold. B2C e-commerce, or selling online, is booming. In a report recently released by the U.S. Department of Commerce, U.S. retail e-commerce (or e-tail) sales for first quarter 2000 (January through March) were $5.3 billion (approximately 7 percent of total retail sales) [4]. According to another report, shopping online is here to stay as evidenced by the fact that in January 2000 alone, consumers spent $2.8 billion online, or more than half of what was spent online during the entire holiday season [2]. More than 50 million households will make online purchases in the next five years with online spending per household increasing from $1,167 in 1999 to $3,738 in 2004 [11].

Why are people buying products over the Internet? For consumers, e-commerce means greater convenience, easy access to a variety of goods and services, and savings in time and money. Internet shoppers surveyed cited: ease of placing an order, large selection of products, cheaper prices, fast service and delivery, detailed and clear product information, no sales pressure, and easy payment procedure, as their reasons for online buying [6].

What are people buying over the Internet? As of January 2000 the products being purchased online included airline tickets, books, apparel items, office supplies, furniture, and appliances [1]. Who is buying on the Internet? Men and women almost equally [3]. Although, the composition of the Internet user is expected to change and be more reflective of the general population as acceptance of buying online grows.

What does all this mean to small business? It means the Internet is a new way to expand business opportunities. E-tailing does more than simply provide alternative shopping sites to real-world stores. It expands existing markets and even creates new ones [7]. E-commerce is proving to be a great equalizer, allowing the smallest of businesses and those in rural locations to access markets and have a presence that allows them to compete on equal footing.

In this emerging digital marketplace nearly anyone with a good idea and a little software can set up shop and then become the corner store for an entire planet. The Internet makes any connected computer that central location, and any desktop can be a doorway to a global mall with a sign that says, "Open 24 hours a day, 7 days a week, 365 days a year" [9].

Vice President Al Gore
December 1998

The Issues

- E-commerce, buying and selling on the Internet, has become big business.
- In 1999, the Internet economy generated more than $524 billion in revenue and generated 2.5 million jobs.
- Participation is largely dependent on access to and adoption of advance information technologies.
- Access to technology is influenced by education, money, race, and residence.

E-Commerce Sectors

- B2C—Business to Consumer (business using Internet as a retail market channel).
- B2B—Business to Business (businesses with supply-chain operations on the Internet).

Challenges for the South

- Rural businesses need to position themselves now for a technology-driven future to increase their chances of survival.
- Businesses in the South cannot afford to let the barriers hold e-commerce back.
- Even though there is interest in e-commerce, there is a critical lack of unbiased educational information and technical assistance for businesses.

Summary

- Connectivity is the key.
- Businesses need access to educational and technical expertise.
- States must educate, recruit, and retain people with technical expertise in the region.
- State and local policymakers must take a strategic look at e-commerce from an economic development perspective.

It also suggests that businesses and those that facilitate economic development should watch this trend carefully and develop a strategy to position themselves in the new Internet economy.

Rural Main Streets were hit hard when the discount mass merchandisers came on the scene about 15 years ago. In fact, many in small rural communities were economically devastated. Some are predicting that B2C e-commerce will wipe out the remaining rural Main Streets. While the traditional ways of doing business should not be totally abandoned, given current trends and predictions, it is essential that businesses embrace the use of the Internet as a vehicle for sales. The businesses that position themselves now for a technology-driven future will increase their chances of survival.

As the buying and selling of consumer goods online continues to grow and local businesses transition to a new retail paradigm, *access to consumer goods* could become a significant issue for many in the rural South. Some goods and services may no longer be available locally, they may only be available online. And for those without access to the Internet and credit cards or electronic cash (such as the less educated, low income, or minorities), purchasing online will not be an option. This will add to the digital divide between the *have's* and the *have not's*.

Business to Business E-Commerce

Even though it is currently the most visible, B2C is only part of e-commerce. B2B e-commerce is quickly emerging as an area of economic growth and expansion. According to a recent survey by the National Association of Manufacturers, more than two-thirds of American manufacturers still do not conduct business electronically. However, that is predicted to change in the near future. Businesses are beginning to move their supply networks and sales channels online and are participating in new online marketplaces. Businesses also are expanding their use of networked systems to improve internal business processes—to coordinate product design, manage inventory, improve customer service, and reduce administrative and managerial costs [8].

Some businesses may face barriers to adopting e-commerce, including a lack of knowledge about the technology and its costs, insufficient information about the benefits of e-commerce and applicable business models, shortage of technically trained employees, complex and user-discouraging e-commerce implementations, the absence of unbiased, qualified assistance, and lack of funds. The South cannot afford to let these barriers hold e-commerce development back. By failing to participate in e-commerce, companies are missing opportunities for lowering costs, increasing productivity, expanding market access, and improving relationships with customers and business partners. By not making the transition to the new way of doing business, businesses run a serious risk of becoming less competitive, effecting both their present market positions and long-term viability. As larger companies (with more available funds to transition) integrate e-commerce into their businesses, small firms run the risk of being excluded if they are unable to establish strong e-commerce ties with others in their supply chains [9].

The Critical Role of Education

Once the issues of infrastructure and connectivity are addressed and solved, the question will become "Will the South be able to adopt and integrate the new electronic way of doing business and capture a share of the B2C and B2B e-commerce markets?" The answer to this question is tied directly to the availability of educational and technical assistance for businesses.

Most businesses and industries have little or no knowledge of the infrastructure (hardware, software, or telecommunications) required to meet their current or future needs when it comes to information technology and e-commerce. This lack of knowledge sometimes leads to unwise hiring and financial and technology related decisions. In addition, many businesses are not prepared to address the management and marketing decisions associated with selling products and services via the Internet. There is interest in e-commerce, but there is a critical lack of unbiased educational information and technical expertise to assist businesses with the where, what, why, when, and how-to. Institutions of higher learning have traditionally been a source of research-

based knowledge providing educational and technical assistance to business and industry through their outreach programs. Are colleges and universities in the South prepared to address e-commerce issues effectively?

In Summary: What Can The South Do?

The rural South has the potential to compete in both the B2C and B2B arenas provided that the connectivity and technology infrastructure exist to facilitate the process (i.e., high speed connections and adequate and affordable bandwidth), there is access to technology providers and technical expertise in the region, educational assistance is available to businesses and policymakers, and there is support from federal, state, and local government policymakers.

To facilitate economic development through e-commerce in the rural South:

- ***All people and all businesses must have the opportunity to be connected to the Internet.*** States in the Southern region need to develop comprehensive statewide assessments and plans for technology infrastructure development and connectivity. The approach needs to be interdisciplinary, interagency, and intercommunity, including state and local government agencies, educational institutions, and the private sector.
- ***Businesses need access to educational and technical expertise.*** Through outreach efforts, educational institutions must develop expertise and programs that support businesses and communities needing assistance with connectivity, infrastructure, e-commerce, and other technology-related issues.
- ***States must educate, recruit, and retain people with technical expertise in the region.*** A trained workforce capable of functioning in a more technology-oriented economy will be essential. At the same time, states must facilitate the growth of information technology providers in the private sector through venture capital and other incentives.
- ***State and local policymakers must take a comprehensive and strategic look at e-commerce from an economic development perspective.*** They must address issues such as generating/losing sales tax revenues, job restructuring/creation, information security, e-commerce strategies, and business incentives.

> **"The businesses that position themselves now for a technology-driven future will increase their chances of survival."**

Most importantly, the South must create, cultivate, and facilitate an environment conducive to functioning in the electronically driven new economy. Technology has provided the opportunity to equalize the economic playing field for the rural South. It is up to the South to take advantage of this opportunity!

References

[1] CyberAtlas. 2000. The NRF/Forrester Online Retail Index. Available online at http://cyberatlas.internet.com/

[2] Forrester Research, Inc. 2000. Forrester Findings. Available online at http://www.forrester.com

[3] Greenburg, Paul A. 2000. "Online Mother's Day Sales Shatter Predictions." *E-Commerce Times*. Available online at http://www.ecommercetimes.com/news/articles2000/000518-2.shtml

[4] King, C. & Piesto, N. 2000. "Retail E-Commerce Sales in First Quarter 2000, Census Bureau Reports." *U.S. Department of Commerce News*. Available online at http://www.census.gov/mrts/www/current.html

BEST COPY AVAILABLE

[5] National Telecommunications and Information Administration. 1999. *Falling Through the Net: Defining the Digital Divide*. Washington, DC: National Telecommunications and Information Administration, U.S. Department of Commerce. Available online at http://www.ntia.doc.gov/ntiahome/fttn99/contents.html
[6] Nielsen, Jackob. 2000. "Designing Web Usability: The Practice of Simplicity." Indianapolis: New Riders Publishing. Available online at http://www.useit.com
[7] U.S. Department of Commerce. 1999. *The Emerging Digital Economy II*. Washington, DC: Economics and Statistical Administration, U.S. Department of Commerce. Available online at http://www.ecommerce.gov/ede/ede2.pdf
[8] U.S. Department of Commerce. 2000. Economics and Statistical Administration. *Digital Economy 2000*. Washington, DC: Economic and Statistical Administration, U.S. Department of Commerce. Available online at http://www.esa.doc.gov/de2000.pdf
[9] The U.S. Working Group on Electronic Commerce. 1999. *Towards Digital eQuality, 2nd Annual Report*. Available online at http://www.ecommerce.gov/annrpt.htm
[10] The University of Texas Center for Research in Electronic Commerce. 2000. *The Internet Economy Indicators*. Available online at http://www.internetindicators.com
[11] Ward, M. and M. Lee. 1999. "Internet Shopping, Consumer Search, and Product Branding." *Journal of Product and Brand Management*. Available online at http://ecommerce.mit.edu/cgi-bin/userview.cgi?Filename=ERF114 or http://ux6.cso.uiuc.edu/~ward1/brand5.PDF

Beth Duncan is a small business specialist at Mississippi State University Extension Service, Food and Fiber Center, and Virgil Culver is a marketing and distribution specialist and Leader of Mississippi State University Extension Service, Food and Fiber Center. For more information on this subject contact them at Box 9642, Mississippi State, MS 39762, 662-325-2160, 662-325-7844 (fax), bethd@ext.msstate.edu, or virgilc@ext.msstate.edu.

Published by
Southern Rural Development Center
Box 9656
Mississippi State, MS 39762
662-325-3207
662-325-8915 (fax)
http://ext.msstate.edu/srdc

For more information, contact
Daniel F. Bentley, Director
(dfb@ride.msstate.edu) or
Sally Gomez, Editor
(sallyg@ride.msstate.edu)

The Southern Rural Development Center is an equal opportunity organization with respect to race, color, religion, sex, national origin, age, disability, or veteran status.

T3 P33
ERIC/CRESS
APPALACHIA EDUCATIONAL LAB
P.O. BOX 1348
CHARLESTON WV 25325-1348

BEST COPY AVAILABLE

SRDC Southern Rural Development Center
Box 9656
Mississippi State, MS 39762

NONPROFIT ORG.
U.S. Postage
PAID
Permit No. 39
Mississippi State, MS